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United States Patent [19][11] **Patent Number:** **5,757,139****Forrest et al.**[45] **Date of Patent:** **May 26, 1998****[54] DRIVING CIRCUIT FOR STACKED ORGANIC LIGHT EMITTING DEVICES****[75] Inventors:** **Stephen R. Forrest; Paul Burrows,**
both of Princeton, N.J.**[73] Assignee:** **The Trustees of Princeton University****[21] Appl. No.:** **792,050****[22] Filed:** **Feb. 3, 1997****[51] Int. Cl.⁶** **G09G 3/14****[52] U.S. Cl.** **315/169.3; 313/504****[58] Field of Search** 315/169.3, 167,
315/168, 169.2, 169.1, 161, 163, 162; 313/498,
501, 506, 503, 504**[56] References Cited****U.S. PATENT DOCUMENTS**

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[57] ABSTRACT

Arrangements for biasing the individual light emitting elements of a stacked organic light emitting device (SOLED). A circuit is provided for independently driving the individual OLEDs in a conventional SOLED having one electrode coupled to ground potential and one further electrode for each of the OLEDs in the stack. Additionally, new SOLED structures are described in which each OLED in the stack is provided with a ground reference. A SOLED combining upright and inverted OLEDs is also described.

19 Claims, 4 Drawing Sheets